

## PARENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

FUJITA, Takaharu  
OR Building  
23-3, Takadanobaba 3-chome (A)  
Shinjuku-ku  
Tokyo 169-8925  
JAPON

Date of mailing (day/month/year) 16 July 2001 (16.07.01)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference PC-8485	
International application No. PCT/JP01/03625	International filing date (day/month/year) 26 April 2001 (26.04.01)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 26 April 2000 (26.04.00)
Applicant MITSUBISHI HEAVY INDUSTRIES, LTD. et al	

- The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
- An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
26 April 2000 (26.04.00)	2000-126545	JP	22 June 2001 (22.06.01)
07 Dec 2000 (07.12.00)	2000-373058	JP	22 June 2001 (22.06.01)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

S. Mandallaz 

Telephone No. (41-22) 338.83.38

# PATENT COOPERATION TREATY

WO 01/81841  
PCT/JP01/03625

**PCT**

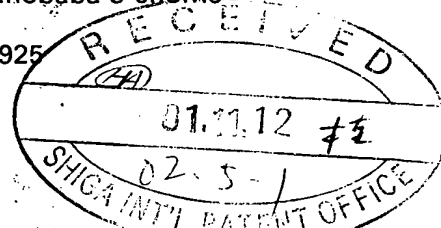
NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

FUJITA, Takaharu  
OR Building  
23-3, Takadanobaba 3-chome  
Shinjuku-ku  
Tokyo 169-8925  
JAPON



Date of mailing (day/month/year) 01 November 2001 (01.11.01)		
Applicant's or agent's file reference PC-8485		<b>IMPORTANT NOTICE</b>
International application No. PCT/JP01/03625	International filing date (day/month/year) 26 April 2001 (26.04.01)	Priority date (day/month/year) 26 April 2000 (26.04.00)
Applicant MITSUBISHI HEAVY INDUSTRIES, LTD. et al		

1. Notice is hereby given that the International Bureau has **communicated**, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:

KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

CN,ID,SG

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 01 November 2001 (01.11.01) under No. WO 01/81841

## REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a **demand for international preliminary examination** must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

## REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the **national phase**, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and the PCT Applicant's Guide, Volume II.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.91.11

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 01/03625

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F25B39/02 F28D7/16 F28F13/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F25B F28D F28F F28B B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 504 990 A (PASQUALINI PIERO) 23 September 1992 (1992-09-23) the whole document ---	1,2
X	DD 299 398 A (SCHWERMASCH LIEBKNECHT VEB K) 16 April 1992 (1992-04-16) the whole document ---	4,5,7
Y	EP 0 844 453 A (CARRIER CORP) 27 May 1998 (1998-05-27) the whole document ---	1-3,6,7
Y	US 5 697 435 A (RALEIGH WILLIAM F ET AL) 16 December 1997 (1997-12-16) the whole document --- -/--	1-3,6,7

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* & \* document member of the same patent family

Date of the actual completion of the international search

27 August 2001

Date of mailing of the international search report

31/08/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
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Fax: (+31-70) 340-3016

Authorized officer

Busuiocescu, B

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 01/03625

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 1 769 994 A (HENDRYX DWIGHT B) 8 July 1930 (1930-07-08) the whole document ---	1-7
A	US 4 843 837 A (KOIKE KEIJI ET AL) 4 July 1989 (1989-07-04) the whole document ---	
A	US 4 671 082 A (MOCHIZUKI TEIICHI ET AL) 9 June 1987 (1987-06-09) the whole document ---	
A	US 3 267 693 A (WESTINGHOUSE ELECTRIC CORPORATION) 23 August 1966 (1966-08-23) the whole document -----	

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International Application No

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Y	US 5 697 435 A (RALEIGH WILLIAM F ET AL) 16 December 1997 (1997-12-16) the whole document --- -/--	1-3, 6, 7



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

27 August 2001

Date of mailing of the international search report

31/08/2001

Name and mailing address of the ISA

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NL - 2280 HV Rijswijk  
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Fax: (+31-70) 340-3016

Authorized officer

Busuiocescu, B

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 01/03625

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 4 843 837 A (KOIKE KEIJI ET AL) 4 July 1989 (1989-07-04) the whole document ----	
A	US 4 671 082 A (MOCHIZUKI TEIICHI ET AL) 9 June 1987 (1987-06-09) the whole document ----	
A	US 3 267 693 A (WESTINGHOUSE ELECTRIC CORPORATION) 23 August 1966 (1966-08-23) the whole document -----	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 01/03625

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0504990	A	23-09-1992	IT 1245799 B	18-10-1994
DD 299398	A	16-04-1992	NONE	
EP 0844453	A	27-05-1998	US 6161613 A	19-12-2000
			AU 733794 B	24-05-2001
			AU 4529197 A	28-05-1998
			BR 9705811 A	25-05-1999
			CA 2219699 A	21-05-1998
			CN 1183539 A	03-06-1998
			JP 3056151 B	26-06-2000
			JP 10176874 A	30-06-1998
			KR 256115 B	01-05-2000
			SG 60140 A	22-02-1999
US 5697435	A	16-12-1997	WO 9517637 A	29-06-1995
			AU 6160894 A	10-07-1995
US 1769994	A	08-07-1930	NONE	
US 4843837	A	04-07-1989	JP 1936815 C	09-06-1995
			JP 6041820 B	01-06-1994
			JP 63087557 A	18-04-1988
			JP 2024064 C	26-02-1996
			JP 7009326 B	01-02-1995
			JP 63153372 A	25-06-1988
US 4671082	A	09-06-1987	JP 1763451 C	28-05-1993
			JP 4054868 B	01-09-1992
			JP 61262567 A	20-11-1986
US 3267693	A	23-08-1966	NONE	

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>PC-8485</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/ JP 01/ 03625</b>	International filing date ( <i>day/month/year</i> ) <b>26/04/2001</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>26/04/2000</b>
Applicant  <b>MITSUBISHI HEAVY INDUSTRIES, LTD. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☒ because this figure better characterizes the invention.

5

☐ None of the figures.





(81) Designated States (national): CN, ID, KR, SG, US.

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments